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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/701,885

11/04/2003

Melissa D. Boyd

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FORT COLLINS, CO 80527-2400

EXAMINER

TENTONI, LEO B

ART UNIT

PAPER NUMBER

1732

MAIL DATE

DELIVERY MODE

08/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/701,885

Applicant(s)

BOYD ET AL.

Examiner

Leo B. Tentoni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-13, 15, 17-30, 68 and 71-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 11-13, 15 and 17-30 is/are allowed.
- 6) ☒ Claim(s) 68, 71-79 and 81 is/are rejected.
- 7) ☒ Claim(s) 80 and 82 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 28 June 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 7,120,512 B2 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in

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order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 68 and 71-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al (U.S. Patent Application Publication 2004/0145088 A1) in combination with Dirscherl (U.S. Patent Application Publication 2004/0099983 A1) for the reasons of record.

5. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al (U.S. Patent Application Publication 2004/0145088 A1) for the reasons of record.

Allowable Subject Matter

6. Claims 1-9, 11-13, 15 and 17-30 are allowable over the prior art references presently of record.

7. Claims 80 and 82 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed on 28 June 2007 have been fully considered but they are not persuasive.

9. Applicant argues (page 13) that Dirscherl does not teach the use of an ultraviolet initiator (as in instant claim 68) and

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that one of skill in the art would appreciate that the systems of Patel et al and Dirscherl operate on entirely different principles. Examiner responds that Patel et al teaches an ultraviolet initiator and that both Patel et al and Dirscherl are directed to solid freeform fabrication processes (and thus, both references are within the field of applicant's endeavor.

10. Applicant argues (pages 13 and 14) that there does not appear to be any valid reason why one of skill in the art would have combined the teachings of Patel et al and Dirscherl since neither reference teaches liquefying a solid material to remove a support material and the supporting material of Dirscherl should be resistant to heat (citing paragraph [0028] of Dirscherl). Examiner responds that while the support material of Dirscherl may be resistant to heat (most likely during the build process), Dirscherl does teach liquefying a solid material to remove a support material (see paragraph [0073] of Dirscherl).

11. Applicant argues (page 15) that Patel et al does not teach or suggest the subject matter of claim 81 (particularly the aspect of "for each layer") and that Patel teaches away from this subject matter because Patel et al orders the fabrication steps differently. Examiner responds that this may be correct for the first layer (of phase-change material) of Patel et al, but once the first layer of phase-change material is deposited,

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then a first ultraviolet initiator is deposited. Then, a second layer of phase-change material is deposited on the first ultraviolet initiator, followed by a second ultraviolet initiator (which meets the limitations of claim 81), and so forth, until the object is built-up as desired. It would have been obvious to one of ordinary skill in the art at the time the invention was made in the process of Patel et al to deposit an ultraviolet initiator before depositing a first layer of phase-change material because Patel et al teaches first depositing an ultraviolet initiator on a previously-deposited phase-change material layer.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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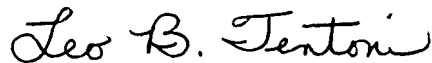
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo B. Tentoni whose telephone number is (571) 272-1209. The examiner can normally be reached on Monday - Friday (6:30 A.M. - 3:00 P.M.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina A. Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Leo B. Tentoni
Primary Examiner
Art Unit 1732

lbt